



Food and Agriculture Organization
of the United Nations

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The impact of **FOOD LOSS and WASTE REDUCTION** On **FOOD SECURITY and NUTRITION**

*Reducing food losses and waste to enhance
food security and nutrition*



Global Initiative
on Food Loss and Waste Reduction



Structure

■ GLOBAL CONTEXT

- ✓ *FOOD LOSS AND WASTE*
- ✓ *FOOD AND NUTRITION SECURITY*
- ✓ *URBAN - RURAL POPULATION PROJECTIONS TO 2030*

■ POTENTIAL IMPACTS OF FLW REDUCTION

- ✓ *NATURAL RESOURCES*
- ✓ *SOCIO-ECONOMIC*
- ✓ *FOOD AND NUTRITION SECURITY*



FAO efforts towards common understanding of FLW terminology VOLUNTARY DEFINITIONAL FRAMEWORK OF FOOD LOSS

1. **FOOD LOSS (FL)**

THE DECREASE IN QUANTITY OR QUALITY

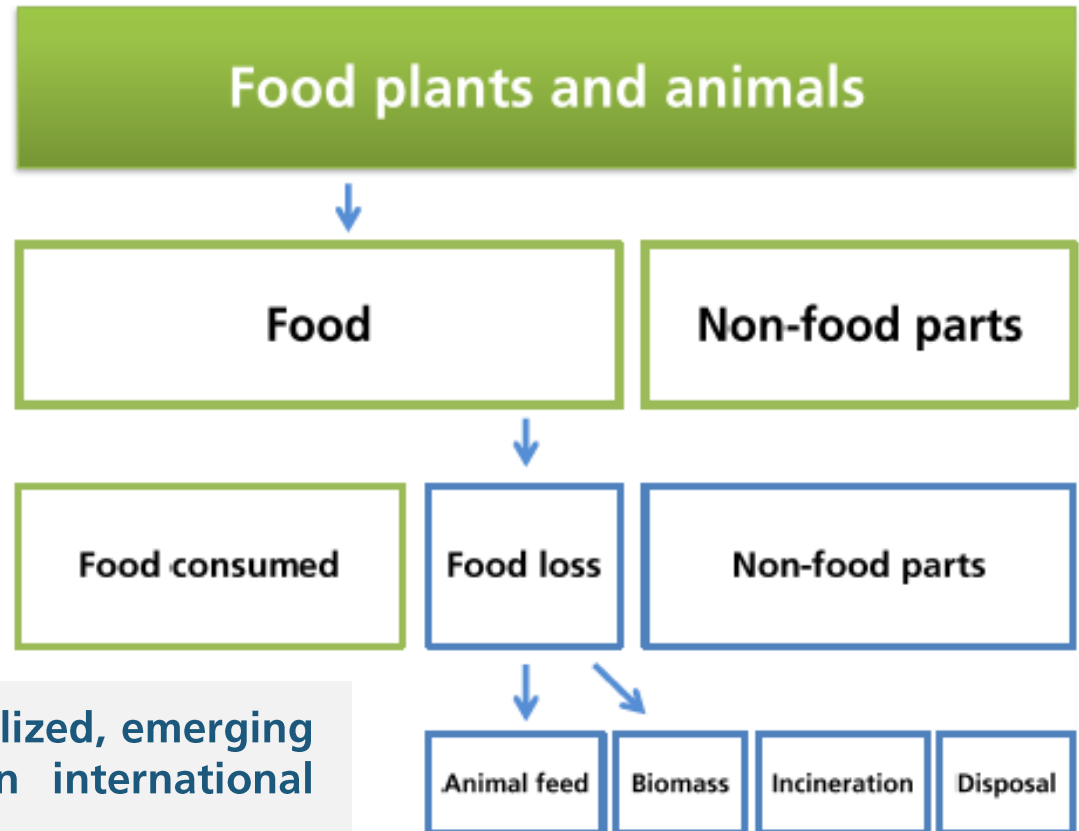
2. **QUANTITATIVE FOOD LOSS**

THE DECREASE IN MASS

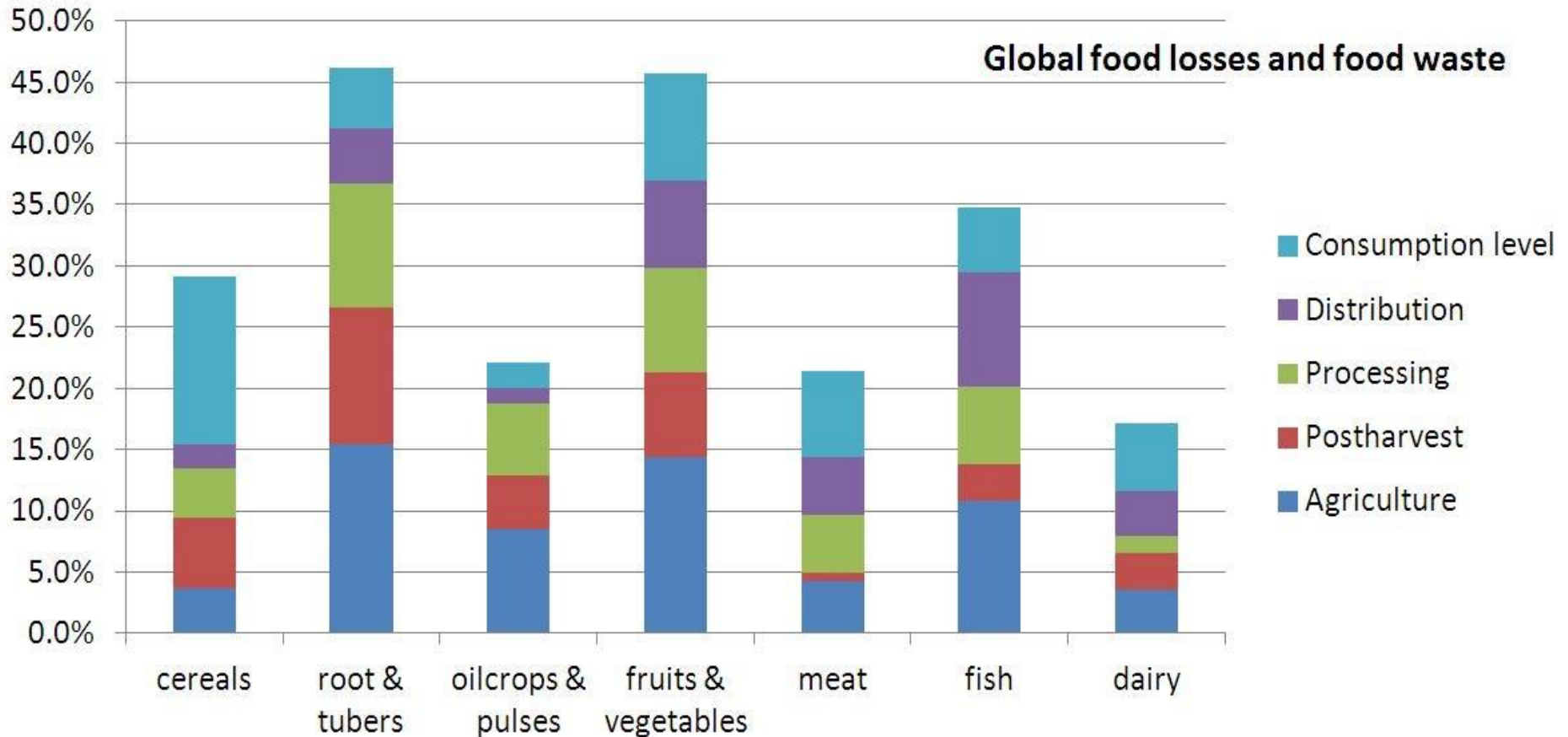
3. **QUALITATIVE FOOD LOSS**

THE DECREASE OF QUALITY ATTRIBUTES

Across supply chains in industrialized, emerging & developing countries and in international food supply chains.



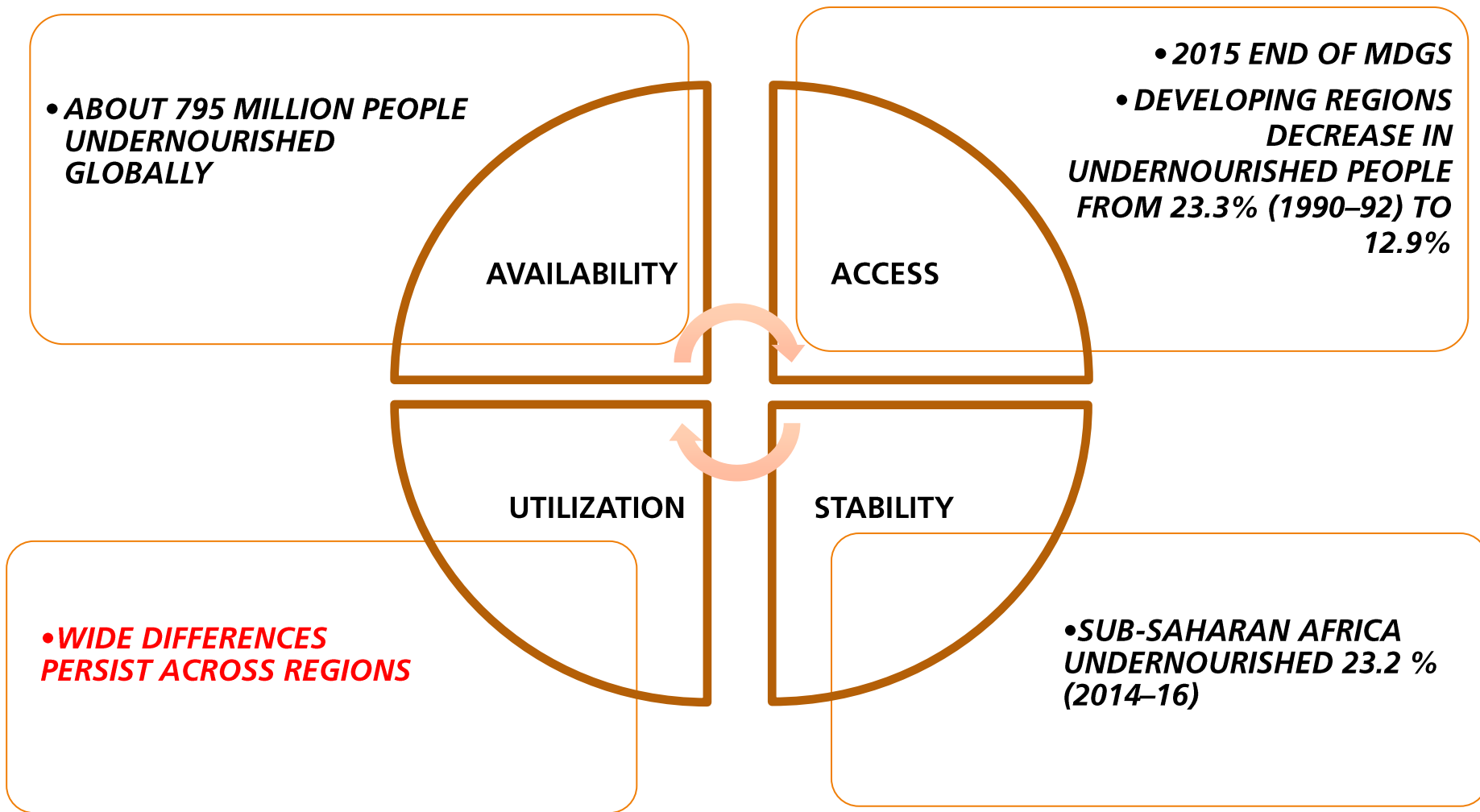
1/3 of food lost or wasted



SOURCE: FAO. 2011. GLOBAL FOOD LOSSES AND FOOD WASTE

FAO-IFAD-WFP

2015 State of Food Insecurity in the World (SOFI)



Source: FAO, IFAD and WFP. 2015.

The State of Food Insecurity in the World 2015.

Meeting the 2015 international hunger targets: taking stock of uneven progress. Rome, FAO.

IMPACT ON FOOD SECURITY

Food Security Impact of FLW

Who are affected?

- Poor smallholder food producer – especially women, direct food access
- Poor food insecure consumer – higher prices
- ✓ Increased supply and cost reductions of production be translated into price reductions

Impact on nutrition, food quality and safety

- Qualitative food losses - reduced nutritional value
- Unsafe products

Economic impact and income-distribution in the value chain

- Market circumstances
- Where in the supply chain are losses reduced
- Improvement in the efficiency of supply chains benefits both producers and consumers



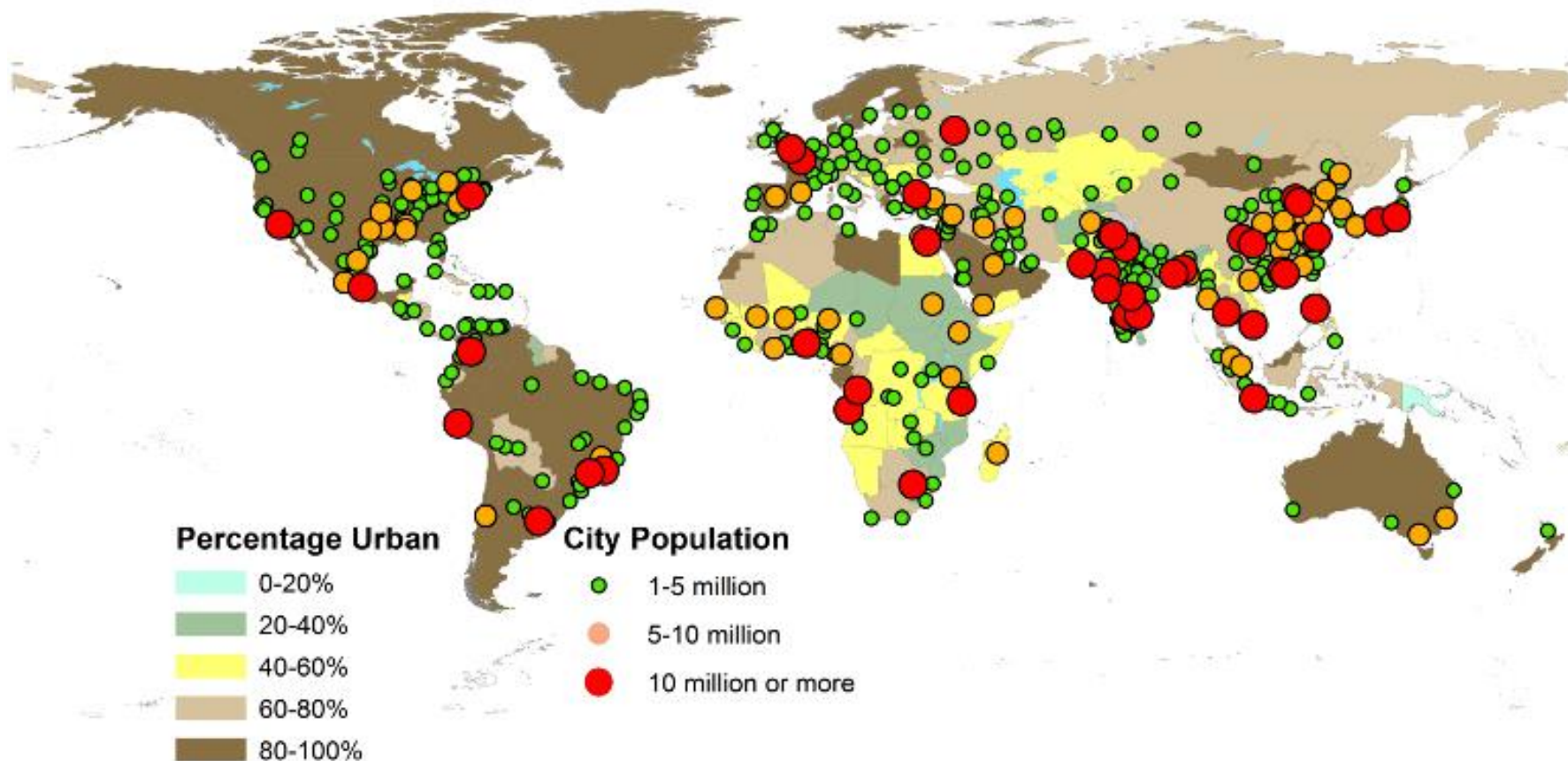
Impact on nutrition

Nutritional Impact of Food Recovery & Redistribution

- Provide nutritious food - Nutritional value of food donations
- Provide nutrition education
- Adjust legislation – don't compromise food safety
- Innovative approaches
 - cold chains
 - on-line platforms

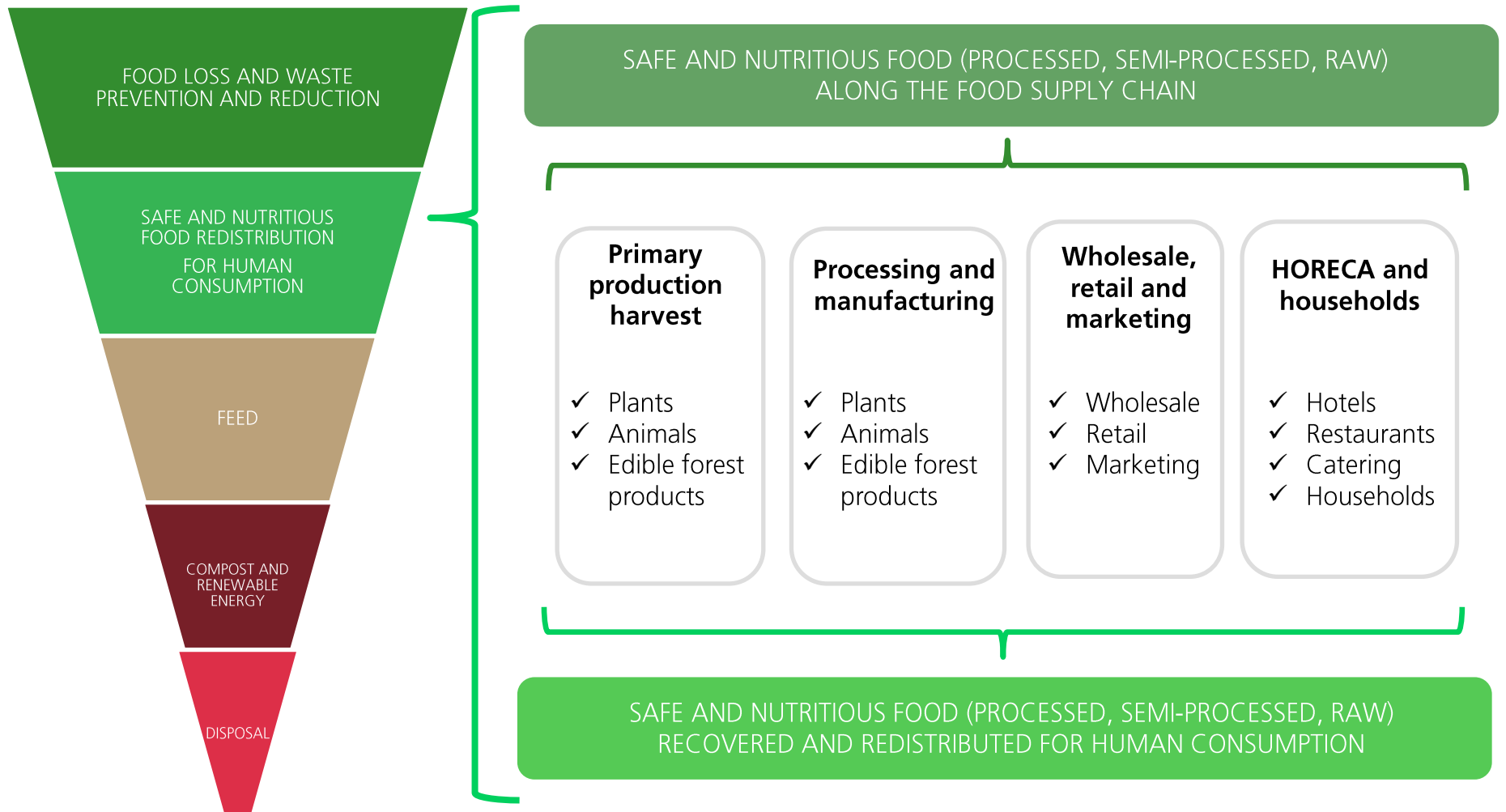


Percentage urban and urban agglomerations by size class – projections to 2030



Note: Designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Safe and nutritious food recovery and redistribution



Source: Bucatariu ET AL., 2015

Food-use-not-loss-or-waste hierarchy, adapted from CFS 41 by Bucatariu, C.

Socio-economic impacts of FLW reduction

Three-step process

1. Theoretical Framework on the economics of FLW

- FAO Commissioned study to University of Bologna (2013)
 - ✓ Macro-economics e.g. Inflation; trade at national/regional/global levels
 - ✓ Micro-economic conditions e.g. Utility and profit maximization
 - ✓ Non-economic conditions e.g. Social norms, policies, climate

2. Modelling and Quantifying impacts of FLW reduction (2015)

- FAO-LEI Study (2015) Scenario analysis
 - ✓ Potential Impacts of Reducing Food loss and Waste in the EU on Sub-Saharan Africa:
A focus on food prices and price transmission effects.

3. Policy dialogue on FLW reduction (2015)

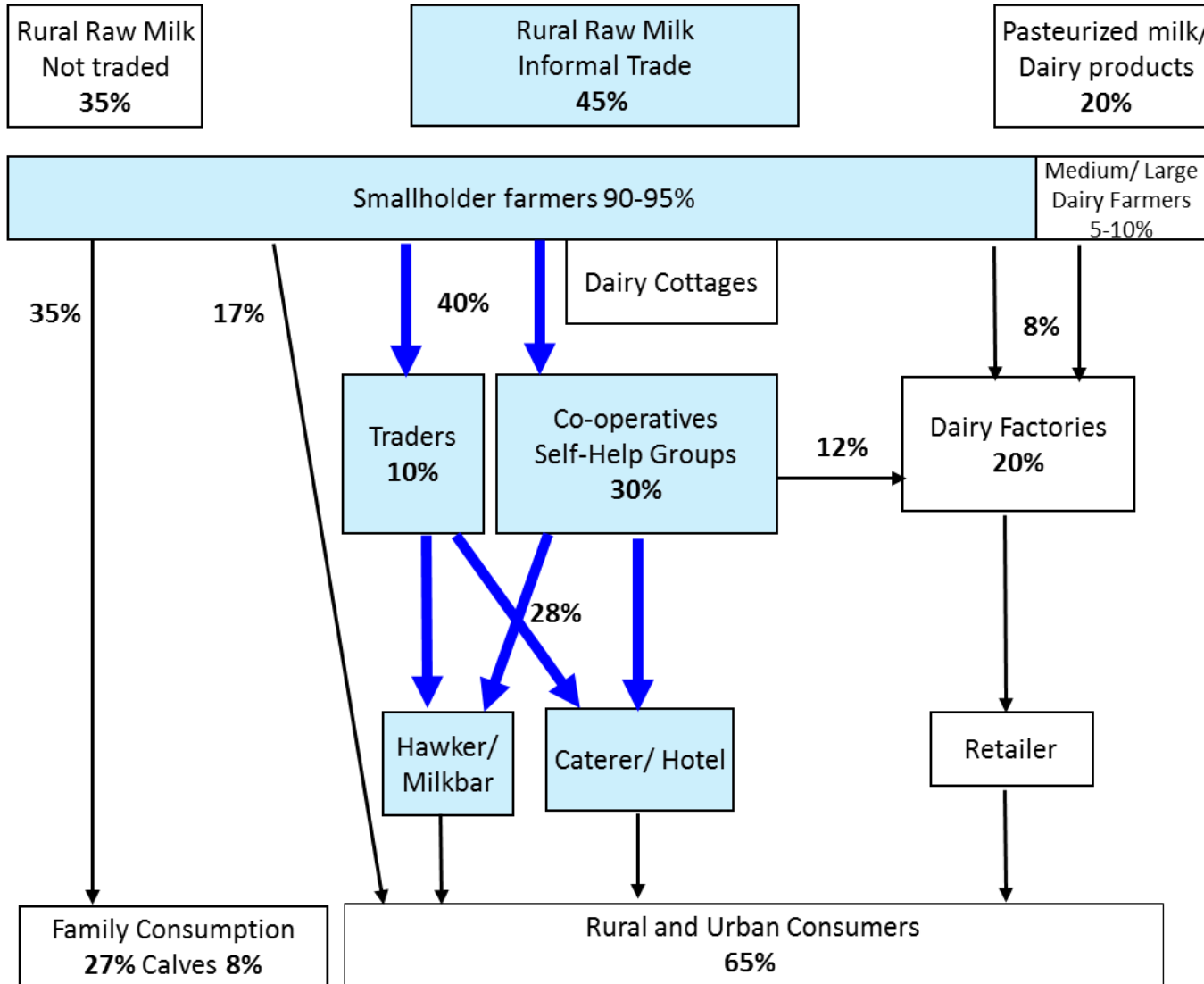
- FAO chapter for EU FUSIONS project - comparative analysis of socio-economic impacts of FLW reduction in the EU

Milk Case Study – Kenya

National production	Volume ton/year	Value USD/year
Raw milk - all animals	5.2 million	1530 million
Raw milk – dairy cattle (3.4 million)	2.5 million	
Raw milk – zebu (14 million)	640,000	
Domestic milk products in 2011 marketed through formal channels	Volume ton/year	Value USD/year
Fresh pasteurized milk	373,000	307 million
UHT white milk	84,000	178 million
Cultured milk	38,400	59 million
Yoghurt	36,800	113 million
UHT Flavoured milk	14,800	31 million
Powder milk	1,200	6 million
Cheese	54	508,000

95% ; 1.8 million small scale
dairy farmers

Case Study – Kenya



SUPPLY CHAIN ACTORS



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Milk Case Study – Kenya

Stage in the supply chain	% loss	% handled	Weighed losses %	Causes
Milking and storage on-farm	6.0	95	5.7	Mainly spoilage of evening milk
Family consumption	-	35	0	
Community supply	-	17	0	Negligible spillage due to very short supply chain
Trader collection centres	1.5	40	0.6	No cooling facility
Co-op/ SHG	0.6	30	0.2	Aluminium milk containers and cooling facility
Traders/ Hawkers	0.9	10	0.1	Transport 50 – 300 ltr of milk per day on motorbikes
At milk bars and others	2.0	28	0.6	With milk cooling system, but expensive and unreliable power
Processors' collection centres	0.4	20	0.1	Milk rejected by the processor
Total loss along the supply chain			7.3	



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www.fao.org/save-food



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